

REMARKS

Please note that the peel tests for measuring “PHAE Adhesion” and “Metal Adhesion” in Table 1 are the same. Thus, the peel test has been clarified by amending paragraphs [00043] to [00045] of the specification in this Amendment. The amendments of claims 1 and other independent claims are fully supported by the disclosures in paragraph [00023] and Table 1 of the specification.

Claims 1-43 have been rejected as being obvious over Beckerdite. This rejection is respectfully traversed.

Beckerdite does not disclose or suggest applying the polyhydroxy amine ether (PHAE) polymer onto a polyolefin-containing layer *having a functional group* as recited in amended claim 1 and other independent claims of the pending application. Thus, Beckerdite fails to establish a *prima facie* case of obviousness.

A functional group onto a polyolefin containing layer could be created, for example, by discharge treatment of the polyolefin-containing layer. Nowhere, not even in the descriptions of PHAE laminate structures in column 5 & 6 and in the Examples, does Beckerdite disclose or suggest discharge treatment of the polyolefin substrate of Beckerdite. Particularly in the case of solution coating the PHAE polymer onto a polyolefin substrate such as a biaxially oriented polypropylene film (BOPP), discharge-treatment of the PHAE coating receiving layer or surface of the polypropylene ensures adequate adherence of the PHAE polymer to the polypropylene film surface. Without this kind of treatment, the PHAE polymer will have very poor adhesion to the film surface. This is due to the difficulty recognized by Applicants in trying to bond dissimilar materials: in this case, PHAE -- which is a very polar polymer -- to polypropylene, a very non-polar polymer. Applicants recognized this problem and arrived at a solution by modifying the polypropylene surface by discharge treatment to promote bonding of a polar material such as PHAE to the non-polar polypropylene. Discharge-treatment of the polyolefin-

containing layer of the embodiments of the invention grafts polar oxygen-bearing and/or nitrogen-bearing functional species to the surface of the polyolefin-containing layer and thus, raises the surface energy of the film which allowed a polar aqueous solution of PHAE to wet-out and adhere to the polypropylene substrate. Good adhesion of the PHAE layer to the polypropylene layer, in turn, provided excellent gas barrier properties. Applicants found that if adhesion is poor, the PHAE will essentially flake-off or peel-off easily, resulting in significant loss of gas barrier properties.

Applicants further respectfully submit the unexpected results of this invention, which the Examiner is requested to consider.

In light of this Amendment, a Notice of Allowance is respectfully solicited.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **361752002900**.

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Respectfully submitted,

By 

Raj S. Davis

Registration No.: 42,465

Morrison & Foerster LLP

1650 Tysons Blvd., Suite 300

McLean, VA 22102

Telephone: 703.760.7755

Facsimile: 703.760.7777